

**AMENDMENTS**  
**In the Claims**

**Canceled Claims**

Claims 33-45 are not designated as being canceled. These claims were the subject of an election/restriction requirement and are now pending in a divisional applications. Therefore, Applicant are not canceling these claims to evidence a decision to dedicate the claims to the public, but because these claims are already the subject of a divisional application cancellation merely facilitates amendment entry.

**Claim Status**

1.(currently amended) A pharmaceutical composition for treating osteoporosis comprising consisting essentially of at least one zwitterionic phospholipid and at least one bisphosphonate.

1      2.(original) The composition of claim 1, wherein the zwitterionic phospholipid is present  
2      in an amount sufficient to reduce GI toxicity of the bisphosphonate and the bisphosphonate  
3      is present in an amount sufficient to reduce bone resorption.

1      3.(original) The composition of claim 1, wherein the zwitterionic phospholipid is present  
2      in an amount sufficient to reduce GI toxicity of the bisphosphonate and improve  
3      bisphosphonate bio-availability when the composition is taken with food and the  
4      bisphosphonate is present in an amount sufficient to reduce bone resorption, increase in bone  
5      density and/or reduce bone fractures.

1      4.(original) The composition of claim 3, wherein the amount of bisphosphonate is between  
2      about 0.1 mg per dose and about 1000 mg per dose and a ratio of bisphosphonate to  
3      zwitterionic phospholipid is between about 1:0.1 and about 1:100.

1      5.(original) The composition of claim 3, wherein the amount of bisphosphonate is between  
2      about 1 mg per dose and about 500 mg per dose and a ratio of bisphosphonate to zwitterionic

1 phospholipid is between about 1:0.5 and about 1:50.

1 6.(original) The composition of claim 3, wherein the amount of bisphosphonate is between  
2 about 2 mg per dose and about 50 mg per dose and a ratio of bisphosphonate to zwitterionic  
3 phospholipid is between about 1:1 and about 1:10.

1 7.(original) The composition of claim 3, wherein the amount of bisphosphonate is between  
2 about 2 mg per dose and about 20 mg per dose and a ratio of bisphosphonate to zwitterionic  
3 phospholipid is between about 1:1 and about 1:5.

1 8.(original) The composition of claim 1, wherein the zwitterionic phospholipid is present  
2 in an amount sufficient to reduce GI toxicity of the bisphosphonate and the bisphosphonate  
3 is present in an amount sufficient to reduce bone resorption, increase in bone density and/or  
4 reduce bone fractures.

1 9.(original) The composition of claim 8, wherein the bisphosphonate is present in an  
2 amount between about 0.1 mg per dose and about 1000 mg per dose and a ratio of  
3 bisphosphonate to zwitterionic phospholipid is between about 1:0.1 and about 1:100.

1 10.(original) The composition of claim 8, wherein the bisphosphonate is present in an  
2 amount between about 1 mg per dose and about 500 mg per dose and a ratio of  
3 bisphosphonate to zwitterionic phospholipid is between about 1:0.5 and about 1:50.

1 11.(original) The composition of claim 8, wherein the bisphosphonate is present in an  
2 amount between about 2 mg per dose and about 50 mg per dose and a ratio of  
3 bisphosphonate to zwitterionic phospholipid is between about 1:1 and about 1:10.

1 12.(original) The composition of claim 8, wherein the bisphosphonate is present in an  
2 amount between about 2 mg per dose and about 20 mg per dose and a ratio of

1 bisphosphonate to zwitterionic phospholipid is between about 1:1 and about 1:5.

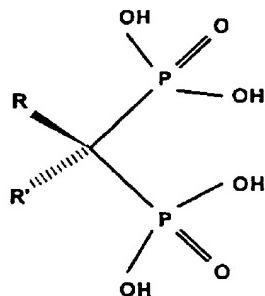
1 13.(original) The composition of claim 1, wherein the zwitterionic phospholipid increases  
2 the bio-availability of the bisphosphonate from about 2 to about 20 fold.

1 14.(original) The composition of claim 1, wherein the bisphosphonate is in its zwitterionic  
2 form and forms an ionic association complex with the zwitterionic phospholipid.

1 15.(currently amended) The composition of claim 1, further comprising consisting  
2 essentially of a colloidal metal, a metal complex or a mixture or combination thereof.

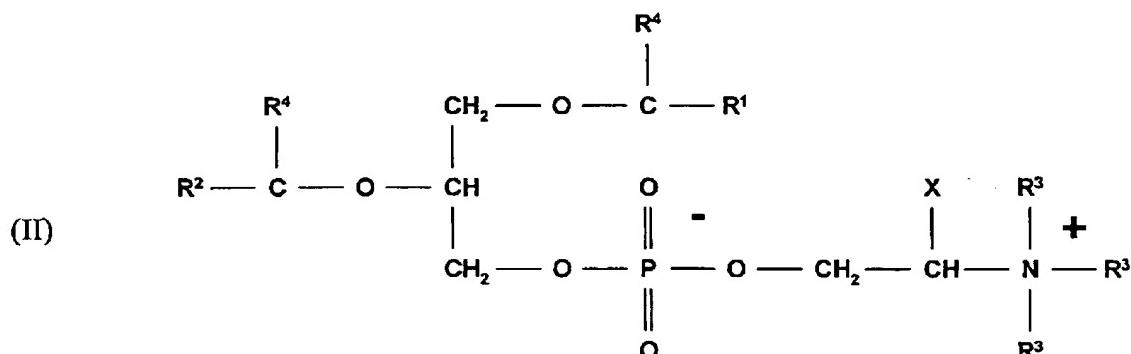
1 16.(original) The composition of claim 1, wherein the bisphosphonate is characterized by  
2 the general formula (I):

3  
4  
5  
6 (I)  
7  
8  
9



10  
11 where R' is H, OH or Cl and R is: (a) an alkyl group having 1 to 6 carbon atoms, optionally  
12 substituted with amino, alkylamino, dialkylamino or heterocyclyl, where the alkyl groups in  
13 alkylamino and dialkylamino substituents have 1 to 5 carbon atoms and are the same or  
14 different in the case of the dialkylamino substituted alkyl groups; (b) a halogen; (c) an  
15 arylthio, preferably chlorosubstituted; (d) a cycloalkylamino having 5 to 7 carbon atoms; or  
16 (e) a saturated five or six membered nitrogen containing heterocyclyl having 1 or 2  
17 heteroatoms.

1       17.(original) The composition of claim 1, wherein the phospholipid is characterized by the  
 2       of general formula (II):



10

11       where R<sub>1</sub> and R<sub>2</sub> are saturated or unsaturated substitutions ranging from 8 to 32 carbon  
 12       atoms; R<sub>3</sub> is H or CH<sub>3</sub>, and X is H or COOH; and R<sub>4</sub> is =O or H<sub>2</sub>.

1       18.(original) The composition of claim 1, wherein the bisphosphonate is selected from the  
 2       group consisting of 3-amino-1-hydroxypropylidene-1,1-bisphosphonic acid (pamidronate),  
 3       4-amino-1-hydroxybutylidene-1,1-bisphosphonic acid (alendronate), N,N-dimethyl-3-amino-  
 4       1-hydroxypropylidene-1,1-bisphosphonic acid (mildronate, olpadronate), 1-hydroxy-3-(N-  
 5       methyl-N-pentylamino) propylidene-1,(N-methyl-N-pentylamino) propylidene-1, 1-  
 6       bisphosphonic acid (ibandronate), 1-hydroxy-2-(3-pyridyl) ethylidene-1,(3-pyridyl)  
 7       ethylidene-1, 1-bisphosphonic acid (risedronate), 1-hydroxyethylidene-1,1-bisphosphonic  
 8       acid (etidronate), 1-hydroxy-3-(1-pyrrolidinyl) propylidene-1,1-bisphosphonic acid, 1-  
 9       hydroxy-2-(1-imidazolyl) ethylidene-1, 1-bisphosphonic(1-imidazolyl) ethylidene-1, 1-  
 10       bisphosphonic acid (zoledronate), 1-hydroxy-2-(imidazo [1,2-a] pyridin-3-yl) ethylidene-  
 11       1,1-bisphosphonic acid (minodronate), 1-(4-chlorophenylthio) methylidene-1, 1-  
 12       bisphosphonic acid (tiludronate), 1-(cycloheptylamino) methylidene-1,1-bisphosphonic acid  
 13       (cimadronate, incadronate), 6-amino-1-hydroxyhexylidene-1,1-bisphosphonic acid  
 14       (neridronate) and pharmaceutically acceptable salts thereof and mixtures and combinations  
 15       thereof.

1       19.(original) The composition of claim 1, wherein the bisphosphonate is selected from the  
2 group consisting of risedronate, alendronate, pamidronate and their pharmaceutically  
3 acceptable salts and mixtures and combinations thereof.

1       20.(original) The composition of claim 1, wherein the zwitterionic phospholipid is selected  
2 from the group consisting of phosphatidyl cholines, phosphatidyl ethanolamines,  
3 phosphatidylinositol, phosphatidyl serines sphingomyelin or other ceramides, phospholipid  
4 containing oils, and mixtures and combination thereof.

1       21.(original) The composition of claim 1, wherein the zwitterionic phospholipid is selected  
2 from the group consisting of phosphatidyl choline (PC), dipalmitoylphosphatidylcholine  
3 (DPPC), other disaturated phosphatidyl cholines, lecithin oils and mixture and combinations  
4 thereof.

1       22.(currently amended) A pharmaceutical composition, for treating osteoporosis,  
2 comprising consisting essentially of a pharmaceutically effective amount of a bisphosphonate  
3 to reduce bone resorption and a sufficient amount of a zwitterionic phospholipid to reduce  
4 GI toxicity and increase the bio-availability of the bisphosphonate.

1       23.(original) The composition of claim 22, the effective amount of the bisphosphonate  
2 comprises between about 0.1 mg per dose and about 1000 mg per dose and the sufficient  
3 amount of zwitterionic phospholipid is such that a ratio of bisphosphonate to zwitterionic  
4 phospholipid is between about 1:0.1 and about 1:100.

1       24.(currently amended) The composition of claim 22, further comprising consisting  
2 essentially of a colloidal metal, a metal complex or mixtures or combinations thereof.

1       25.(currently amended) A pharmaceutical composition comprising a carrier; and a  
2 pharmaceutically active component consisting essentially of a pharmaceutically effective

1 amount of a bisphosphonate to reduce bone resorption and a sufficient amount of a  
2 zwitterionic phospholipid to reduce GI toxicity and increase the bio-availability of the  
3 bisphosphonate, where the phospholipid is in its zwitterionic form and the bisphosphonate  
4 is in its zwitterionic form.

1 26.(original) The composition of claim 25, wherein effective amount of the bisphosphonate  
2 is between about 0.1 mg per dose and about 1000 mg per dose and the sufficient amount of  
3 zwitterionic phospholipid is such that a ratio of bisphosphonate to zwitterionic phospholipid  
4 is between about 1:0.1 and about 1:100.

1 27.(currently amended) The composition of claim 25, further comprising wherein the  
2 pharmaceutically active component further consisting essentially of a colloidal metal, a metal  
3 complex or a mixture or combination thereof.

1 28.(original) The composition of claim 25, wherein the medication is to be taken orally.

1 29.(original) The medication of claim 25, wherein the medication is to be taken orally with  
2 food.

1 30.(currently amended) An oral medication for treating osteoporosis comprising an solid  
2 object comprising an inert carrier; and a pharmaceutical composition consisting essentially  
3 of a pharmaceutically effective amount a bisphosphonate to reduce bone resorption and an  
4 amount of a zwitterionic phospholipid sufficient to reduce GI toxicity and increase the bio-  
5 availability of the bisphosphonate.

1 31.(original) The medication of claim 30, wherein the effective amount of the  
2 bisphosphonate is between about 0.1 mg per dose and about 1000 mg per dose and the  
3 sufficient amount of zwitterionic phospholipid is such that a ratio of bisphosphonate to  
4 zwitterionic phospholipid is between about 1:0.1 and about 1:100.

1       32.(currently amended) The medication of claim 30, further comprising wherein the  
2       pharmaceutical composition further consisting essentially of a colloidal metal, a metal  
3       complex or a mixture or combination thereof.

1       33.(canceled)

2       34.(canceled)

3       35.(canceled)

4       36.(canceled)

5       37.(canceled)

6       38.(canceled)

7       39.(canceled)

8       40.(canceled)

9       41.(canceled)

10      42.(canceled)

11      43.(canceled)

12      44.(canceled)

13      45.(canceled)

1       46.(currently amended) A pharmaceutical composition for treating osteoporosis  
2       comprising consisting essentially of at least one zwitterionic phospholipid and at least one  
3       bisphosphonate, where the phospholipid is in its zwitterionic form and the bisphosphonate  
4       is in its zwitterionic form.

1       47.(currently amended) A pharmaceutical composition, for treating osteoporosis,  
2       comprising consisting essentially of a pharmaceutically effective amount of a bisphosphonate  
3       to reduce bone resorption and a sufficient amount of a zwitterionic phospholipid to reduce  
4       GI toxicity and increase the bio-availability of the bisphosphonate, where the phospholipid  
5       is in its zwitterionic form and the bisphosphonate is in its zwitterionic form.

1       48.(currently amended) An oral medication for treating osteoporosis comprising an solid  
2       object comprising an inert carrier; and a pharmaceutical composition consisting essentially  
3       of a pharmaceutically effective amount a bisphosphonate to reduce bone resorption and an  
4       amount of a zwitterionic phospholipid sufficient to reduce GI toxicity and increase the bio-  
5       availability of the bisphosphonate, where the phospholipid is in its zwitterionic form and the  
6       bisphosphonate is in its zwitterionic form.